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**ABBREVIATED
PRELIMINARY ASSESSMENT
OF
CHEMETALL FOOTE CORPORATION (FORMERLY CYPRUS
FOOTE MINERAL COMPANY)
(VA-735)**

Submitted by:

Commonwealth of Virginia
Department of Environmental Quality

August 31, 2006

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1.0 INTRODUCTION

Virginia Department of Environmental Quality (DEQ) was tasked by the United States Environmental Protection Agency (EPA) to provide technical support for completion of an abbreviated preliminary assessment of the Chemetall Foote Corporation in Sunbright, Virginia.

The specific goals for the Chemetall Foote Corporation abbreviated preliminary assessment are:

- Determine the potential threat to public health or the environment posed by the site;
- Determine the potential for a release of hazardous constituents into the environment.

Completion of the abbreviated preliminary assessment included reviewing existing site information, collecting limited receptor information within the site's range of influence, determining regional characteristics, and conducting a site visit. This document includes a discussion of background site information, a recommendation of remedial action needed, and a list of pertinent references.

2.0 SITE DESCRIPTION

2.1 SITE LOCATION

The Chemetall Foote (formerly Cyprus Foote) Corporation (CFC) Sunbright Facility is located in Sunbright, Virginia, Scott County, approximately two miles northeast of Duffield, Virginia. It is located off of Route 871 near the intersection of Route 653 and Route 871.

2.2 SITE LAYOUT

The Chemetall Foote Corporation site is approximately 509 acres. The site consists of a closed subsurface mine, the manufacturing process works area, and a capped Spodumene-Lime Tailings Pile (SLTP). The mine and the manufacturing area are on the north side of Route 871 and the SLTP is on the south side of Route 871. The majority of the contamination and remediation effort has been focused around the SLTP. Bishop Creek and Stock Creek are near the northeast perimeter of the facility. The confluence of Bishop Creek and Stock Creek is located on the CFC property. Multiple groundwater seeps flow into Bishop Creek and Stock Creek.

2.3 SITE HISTORY

The facility was created in 1952 by the Foote Mineral Company to produce lithium hydroxide. The process used limestone and spodumene, which is a natural mineral that contains lithium. The limestone came from underground mines on site and the spodumene was transported to the facility from off-site.

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The manufacturing process created a large amount of calcium aluminum silicate as a by-product. It was disposed of in two waste piles, a sinkhole, and a large depression on the south side of Route 871. Approximately 2,000,000 tons of calcium aluminum silicate were disposed of in the depression south of Route 871, which is referred to as the Spodumene-Lime Tailings Pile (SLTP).

The facility operated until 1972 when it closed because of economic reasons. The facility reopened in 1976 and continued production of lithium hydroxide monohydrate and lithium hydroxide anhydrous. Calcium carbonate slurry was created as a waste product of the manufacturing process. The slurry was dewatered and the "filter cake" that remained was dumped into the abandoned mine works at the facility. The facility continued to operate in this manner until it was closed in August 1996. During the twenty years between 1976 and 1996, approximately 200,000 cubic yards of the filter cake were deposited in the abandoned mine works.

From 1994 to 1997, the facility was closed in accordance with guidelines set forth in two remediation plans that the Virginia Department of Environmental Quality approved. The document submitted to and approved by VDEQ was titled *Closure Demonstration Report: In-Place Closure of Unpermitted Solid Waste Management Unit*.

The Chemetall Foote Corporation removed approximately 120,000 cubic yards of calcium aluminum silicate from the two waste piles and the sinkhole to the north of the facility. The SLTP was regraded and capped with a composite landfill-type cover system in 1995. The actual plant facility and storm water pond were completely demolished and regraded. south leg

The name of the company changed from Cyprus Foote Mineral Company to Chemetall Foote Corporation in 1998.

The Chemetall Foote Corporation has instituted a policy of ongoing environmental monitoring that meets the standards of the August 4, 1999 VPDES Permit #VA0052655 as well as the Consent Special Order of July 10, 2000. Three outfall points are monitored in accordance with the permit. They consist of Discharge 401, which is the discharge point for treated water from the pH neutralization process; Discharge 004 located at the outlet of Bishop Creek before its confluence with Stock Creek; and Discharge 003, which is on the western slope of the SLTP. All other outfalls have been removed in accordance with the closure plan.

Faulkner and Flynn Environmental Management Consultants were hired by the Chemetall Foote Corporation to assess the environmental conditions of the Sunbright Facility. The resulting report, titled "Technical Evaluation of Environmental Monitoring Data and Instream Quality of the Sunbright Facility Chemetall Foote Corporation," was completed in November 2003. The study

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found that the closure activities implemented from 1994 to 1997 had successfully reduced the concentrations of the lithium and aluminum that entered the nearby streams. Quarterly monitoring of drinking water wells from 1999 to 2003 shows that lithium concentrations are definitely below the USEPA Residential Risk-Based Concentration for Tap Water. Also, a benthic macro invertebrate study of Stock Creek near the Facility found significant numbers of target species. Therefore, the discharge from the site is not having an adverse effect on the waterway.

According to personnel from the DEQ Southwest Regional Office, who make routine inspections of the site, water monitoring at the discharge sites will continue indefinitely to ensure that the water treatment process is working correctly.

3.0 SUMMARY AND RECOMMENDATIONS

Remedial actions have been performed and monitoring and water treatment will be ongoing at the Chemetall Foot Corporation Sunbright Facility. The DEQ Southwest Regional Office has been and will continue to regularly visit the site to conduct inspections regarding water treatment and discharge. Therefore, no further action is necessary under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

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Pictures of Chemetall Foote Corporation Sunbright Facility, July 1, 2006.



Facing East at Ground Level.



SLTP Panorama from East Slope,
left of center.



SLTP Panorama from East Slope,
right of center



SLTP Panorama from East Slope, center.

REFERENCES

Faulkner and Flynn. "Technical Evaluation of Environmental Monitoring Data and Instream Quality of the Sunbright Facility Chemetall Foote Corporation." November 3, 2003.

CONTACTS

Newman, Allen. Manager, Water Permitting and Planning, DEQ Southwest Regional Office.

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